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Patent allowed April 7, 1908

Medusa White Portland Cement

PERFECTLY WHITE IN COLOR



A New and Beautiful Product,
Adapted to Ornamental Artificial
Stone Work of the Highest Grade

A TRUE, HIGH-TESTING PORTLAND

— STAINLESS —

FOR EXTERIOR AND INTERIOR FINISH

Guaranteed to Pass the Requirements of the
American Society for Testing Materials

MANUFACTURED BY

Sandusky Portland Cement Co.

SANDUSKY, OHIO, U. S. A.

White Portland Cement

PORTLAND CEMENT has easily demonstrated its superiority to all other building materials in respect of strength, convenience, durability and cheapness; only in one quality, that of *beauty*, has it been found wanting. It is true that a vast amount of ornamental architectural work in concrete is being produced, much of it of a very artistic character so far as form and surface are concerned, but all showing the drawback of an uninviting *color*. In comparison with the red, buff or white of terracotta, the warm tints of granite or sandstone, or the clear white of marble, the monotonous blue-gray of ordinary cement concrete offers a dreary contrast. For this reason the use of cement in the field of *ornamental* architecture has been limited, and has been confined, for the most part, to a class of buildings in which beauty is not an essential consideration.

The question has often been asked, "Can a **White Portland Cement** be made?" and this has generally been answered in the negative. As substitutes, gypsum plaster in various forms, notably in the improved composition known as Keene's Cement, has been widely used. It is well known, however, that gypsum plaster is rapidly attacked by water and will not stand exposure to weather; the use of such materials has therefore been confined to interior ornamentation.

Certain other classes of cement, of white or nearly white color, such as slag cement and the "grappier" cement made by grinding the residues from hydraulic lime manufacture, are made and to some extent used, especially in Europe, but these have been found wanting in strength and hardening properties, and so far inferior to true Portland that they have failed to gain an important foothold.

It is generally agreed that a true, **White Portland Cement**, equal to the best gray Portland in hardening and lasting qualities, would fill a definite want and find extensive use. There are many difficulties to be overcome in making such a product; suitable materials are only of most rare occurrence, and if found require a process very different from the ordinary one of cement manufacture. For these reasons, tho many attempts have been made to produce a white Portland, and success has often been heralded in press notices, the product has not hitherto been found in the markets of the world.

We take pleasure in announcing that as the result of experiments made by our General Manager, Mr. S. B. Newberry, and extending over the past fourteen years, we are now manufacturing **MEDUSA WHITE PORTLAND CEMENT**, of pure white color, and guarantee this product at least equal in strength, setting and hardening qualities to the best gray Portland in the market. We have at great expense built and equipped a special factory, in Eastern Pennsylvania, for the manufacture of this product, and having perfected our process and carried on the manufacture for the past two years, are prepared to ship in any desired quantities.

PACKAGE.

We pack in duck sacks, returnable, or in paper-lined wood barrels.

LIBRARY of
THE
FRANKLIN
INSTITUTE

USES OF MEDUSA WHITE PORTLAND CEMENT

THIS CEMENT is to be used in the same manner as ordinary Portland, from which it differs in no respect except in that of its **pure white color**. To produce white concrete or white artificial stone, the cement should be mixed with white sand, crushed white quartz, ground marble (not dust) or ground white limestone.

Among the many uses for which the **Medusa White Portland Cement** will be found suitable, the following may be mentioned:

Building Ornamentation. For exteriors of buildings, cement plaster finish, steps, railings, columns, doorways, window casings, cornices and panels.

Stucco. One part Medusa White Portland Cement mixed with two to three parts crushed marble or white sand, will produce a strong, rich mortar which will cling to new brick, metal lath, etc., or can be used as finishing coat in constructing stucco work. The face of this mortar after it has set hard should be washed off with dilute muriatic acid which will remove any stains which might have been produced by impure water, and will leave a wall of sparkling and pure white color.

Concrete Building Blocks. In conjunction with our Medusa Water-Proof Compound, for facing or entire body of absolutely damp-proof hollow concrete blocks, of pure white color or any desired tint. White limestone or crushed white marble and Medusa White Portland Cement produces effects which give the appearance of solid blocks of white marble, and if surface is washed with dilute muriatic acid and then scrubbed with water, a texture is produced which rivals natural stone.

Interior Decoration. Staircases, wainscoting, panels, reliefs, floors. Pure white floors, wainscoting, etc., can be obtained by the use of one part Medusa White Portland Cement and two parts marble screenings or white sand. This should be applied as a top coat before the base has reached its final set. (Do not use any sand which is not clean, as this would stain the work.)

Statuary. As an incomparably improved substitute for plaster in reproducing statuary figures and groups, for galleries of casts, or exterior or interior decoration. For work of this kind mix one part Medusa White Portland Cement with two parts ground white limestone, crushed marble or white sand. Mix dry until thoroughly incorporated, add water and again mix to the consistency of thick cream. Use plaster or gelatine moulds. Keep moist for a week, allow surface to dry, then wash with dilute muriatic acid (one part commercial muriatic acid, four parts water). Apply with a brush having no metal, wash with clean water, scrubbing the surface with a house scrubbing brush.

Cemetery Work. For monuments, vaults, columns, urns and plot borders, use with white crushed marble, gelatine or plaster moulds, washing off the finished product with dilute muriatic acid to produce a sparkling effect rivaling that of the best white marble.

Parks and Grounds. For fountains, seats, railings, steps, walks and gateways.

Tile, Mosaic, Etc. The possible uses of the White Portland Cement in the production of white or colored tiles for Mosaic floors, wainscoting, bath-rooms and fire-places are too numerous to be here more than mentioned. Mix a mortar of one part Medusa White Portland Cement and two parts white crushed marble, applying the same as for stucco or metal lath. In using for bath-room walls, etc., mark off in small bricks just before final set. When thoroughly hard within a week's time, scrub off surface with a fine grain carborundum stone, and water. This will leave a permanently smooth, almost polished, surface.

Colored Concrete. It is well known that bright or delicate colors in concrete are difficult to obtain by the addition of coloring matters to ordinary gray Portland. The Medusa White Portland Cement, with the addition of small amounts of ordinary pigments, venetian red, ultra-marine blue or green, and yellow ochre gives concrete of brilliant and lasting colors, thus enabling architects to produce artistic effects not heretofore obtainable.

Painting. For use as a paint to be applied to cast iron work mix neat Medusa White Portland Cement with sufficient water to make a paint the consistency of thick cream, applying with a brush. The iron should be clean.

For painting surfaces of concrete work, wash the surface with dilute muriatic acid, rinse with water and see that the concrete is thoroughly wet before application. The mixture should consist of two parts Medusa White Portland Cement and one part marble dust. Add sufficient water to bring to the consistency of very thick cream and plaster on a thin coat with a trowel. Sprinkle with clean water once or twice each day for a week after final set.

Stainless Mortar. For laying up Bedford limestone, sandstone or marble. Owing to its entire freedom from coloring ingredients, Medusa White Portland Cement is **absolutely stainless**, and may be used with entire safety in laying up stone work of any kind.

Setting. Particularly adapted for outside work and will be permanent in pointing up joints between blocks or slabs of white marble, limestone or brick.

We take pleasure in assuring our many customers, to whom our Medusa gray Portland Cement, made at our various factories, has so long been favorably known, that our White Portland is all that we claim for it, and we have full confidence that they will find it a most valuable addition to the list of high-class building materials.

PITTSBURGH TESTING LABORATORY

Pittsburgh, Pa., Jan. 31, 1908.

Report of tests on Medusa White Portland Cement made for Houston Brothers Co., 32nd St. and Penna. R. R., Pittsburgh, Pa.

Neat tests.						
Lab'y No.	Duration of tests.		1	2	3	Average.
18,154.....	24 hours		250	238	252	246
18,154.....	7 days.		490	510	488	496
Sands tests.						
Lab'y No.	Duration of tests.	Proportion.	1	2	3	Average.
18,154.....	7 days.	3-1	208	190	205	201
18,154.....	28 days.	3-1	285	295	300	293

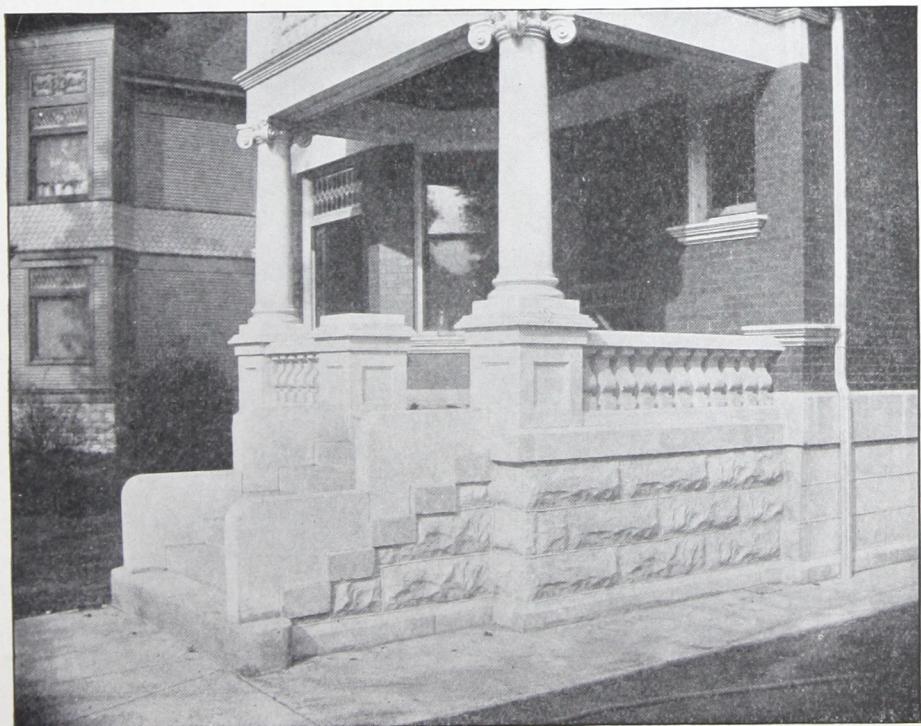
100 mesh, 96½; boiling test, satisfactory.

PITTSBURGH TESTING LABORATORY,
John M. Bailey, Secy.



Brick Apartment House. Waterman and Rosedale Aves., Washington Heights, St. Louis, Mo.
E. F. Nolte, Architect. Built by the Pendleton Investment Co.

All stone is artificial, made of Medusa White Portland Cement and contain
ing Medusa Water Proof Compound. S. T. Yourtee, Contractor.



Porch trimming at Maywood, Ill.
Built by August Abelman with Medusa White Portland Cement and crushed limestone.

Chicago, Feb. 18, 1908.

SANDUSKY PORTLAND CEMENT CO.,
Chamber of Commerce Bldg.,

Chicago, Ill.

Gentlemen:—Below we give you the 7-day results of tests on one sample of White Cement received from the Knickerbocker Ice Co. February 11, 1908.

Boiling O. K. Fineness on 100-mesh sieve, 95.56; fineness on 200-mesh sieve, 79.54. Initial set, 6 hours. Final set, 7 hours, 5 minutes.

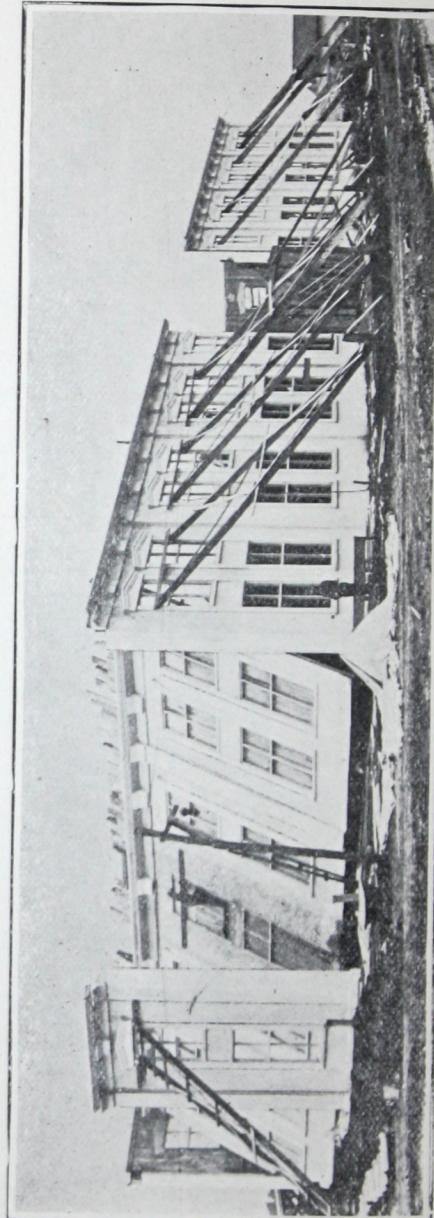
TENSILE STRENGTH.

24 hr.	7 day	24 hr.	7 day
neat	neat	1-3	1-3
355	695	155	238
370	706	170	212
380	730	180	220

TENSILE STRENGTH.

28 day	28 day
neat	1-3
951	294
908	320
961	317

Respectfully submitted,
Robert W. Hunt & Co.



Mess Hall, Camp Perry, O. State Rifle Range.

This entire building faced with Medusa White Portland Cement.



Bank of San Jose Building
San Jose, Cal.

Exterior cement stucco finish composed of 1 part Medusa White Portland Cement and 3 parts white sand. Contains 1% Medusa Water-Proof Compound.

HENRY A. SCHULZE, Architect.

TO HASTEN SETTING AND HARDENING

When desirable to obtain **rapid hardening** of Portland Cement, as in making **casts**, use 10 per cent. solution of calcium chloride instead of water, for mixing and pouring. This is a cheap material, and can be obtained from any dealer in chemicals, or in large quantity from Carbondale Chemical Co., Carbondale, Pa. 8 lbs. calcium chloride to 10 gallons water will give a 10 per cent. solution.

Casts made in this way will harden and can be removed from moulds in one-third the time required when water only is used, and the chemical has no injurious effect whatever on the strength or soundness of the cement.

Laboratories of Henry S. Spackman Engineering Company.

Philadelphia, Pa., Feb. 19, 1908.

Report of test of Portland Cement. Submitted by Lesley & Trinkle, 604 Penna. Bldg., Phila. Reported to Sandusky Portland Cement Co. Sandusky, O.

Description of sample: White Portland cement collected by our representative Jan. 21, 1908, from 150 bbls. in bags, car P. & R. 3350, at the warehouse of Lesley & Trinkle, Beach St. and Fairmount Ave., Phila., Pa.

Fineness: Passing No. 100 sieve, 94.5 per cent.; passing No. 200 sieve, 76.5 per cent.

Constancy of volume test: Normal pat. Test Am. Soc. Civ. Engrs. Cold water pat, good; air pat, good.

Setting time: Gilmore's needle. Initial set, 3 hrs. 45 min.; final set, 9 hrs. 15 min.; per cent. of water, 20; temperature of air, 70 degrees Fahr.; temperature of water, 70 degrees Fahr.

Accelerated test: Steam test, good; boiling water test, good; specific gravity, 3.08.

Tensile strength of standard briquettes (1 square in. section):

No. of Briquette	Composition	Per Cent. of Water	Time			Date made	Date Tested	Strength in lbs.	
			In air	In Water	Total			Bri- quettes	Aver- age
55,910	Neat	20	24 hrs.		24 hrs.	1-22	1-23		314
55,920	Neat	20	24 hrs.	6 days	7 days	1-22	1-29		630
55,925	1-3	8.8	24 hrs.	6 days	7 days	1-22	1-29		195
55,930								730	
1						1-22	2-19	780	
2	Neat	20	24 hrs.	27 days	28 days			730	
3						1908	1908	785	
4								760	757
55,935								380	
6	1 Cement							370	
7								360	
8	3 Sand	8.8	24 hrs.	27 days	28 days	1908	1908	390	
9								340	368

3 Months.

Neat.

Lab. No. 55940..... 860 lbs.
1..... 810
2..... 885
Av.... 852

1 Cement, 3 Sand.

Lab. No. 55945..... 430 lbs.
6..... 440
7..... 450
Av.... 440

6 Months.

Lab. No. 55950..... 860 lbs.
1..... 900
2..... 925
Av.... 895

Lab. No. 55955..... 495 lbs.
6..... 495
7..... 460
Av.... 483

Chemical analysis: No. 2963.

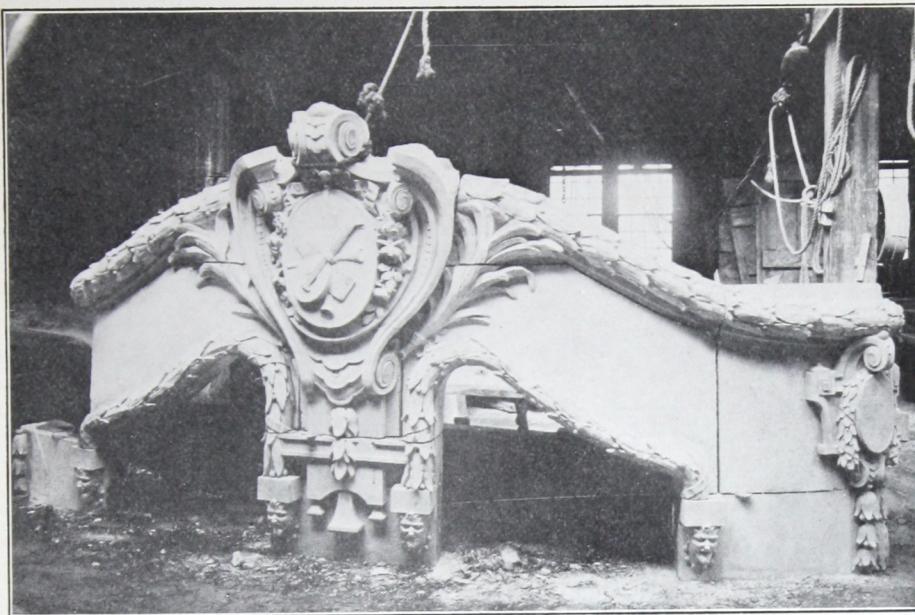
Silica	.....	SiO ₂	25.10 per cent.
Alumina	.....	Al ₂ O ₃	5.05 per cent.
Iron Oxide	.....	Fe ₂ O ₃	.43 per cent.
Lime	.....	CaO	65.68 per cent.
Magnesia	.....	MgO	1.54 per cent.
Sulphuric Anhydride	.....	SO ₃	.96 per cent.
Loss on ignition	.....		1.24 per cent.
Ratio lime to silica.			

Remarks: This cement passes the specifications adopted by the American Society for Testing Materials.

Respectfully submitted,

Henry S. Spackman Engineering Co.,

Per E. W. Lazell.



Cast in Medusa White Portland Cement for Exterior Ornamentation of
Tripp's Dancing Academy, St. Louis, Mo. The Geo. Rackle & Sons Co., Contractors.

G. & T. Earle, Limited.

Wilmington, Hull, England, April 8, 1908.

Messrs. THE SANDUSKY PORTLAND CEMENT CO.,
Sandusky, Ohio, U. S. A.

Dear Sirs:—We have pleasure in giving you on attached sheet, the 7- and
28-days' tests of the two barrels of White Cement received from you on March 11th.
Believe us to remain,

Yours truly,

p. pro. G. and T. Earle, Limited,
H. Earle, Managing Director.

Tests of two barrels of White Cement received March 11, 1908.

	7 days	28 days
	lbs.	lbs.
Neat Tensile Strain, 1" section, moulds filled by thumb pressure.	680	840
	700	860
	750	860
Neat Tensile Strain, 1" section, moulds filled by hand with small brass rammer.	780	950
	810	950
	840	980
Sand Tensile Strain, 1" section, three Standard Sand, one Cement, moulds filled by Boehme hammer.	260	430
	300	460
	310	480
	Tons on $2\frac{3}{4}$ " cube=sq. ft.	Tons on $2\frac{3}{4}$ " cube=sq. ft.
Neat Compression Strain, moulds filled by hand with small brass rammer.	28.0	520.00
	28.2	523.00
	28.6	531.00
Sand Compression Strain, three Standard Sand, one Cement, moulds filled by Klebb hammer.	13.2	245.00
	13.4	248.00
	13.5	250.00

Chatelier, 2 millimetres.

Boiling Pat Microscopically Sound.

Setting. Initial 80 minutes. Final 500 minutes.

Pat put under water in a plastic condition on a sheet of glass sets hard in 24
hours and adheres to it.

MEDUSA WHITE PORTLAND CEMENT

IS BEING USED IN MANY LARGE
CONTRACTS BESIDES THE FOLLOWING

Washington Street Tunnel, Boston, Mass.

Southern Pacific Hospital, San Francisco, Cal.

Mausoleums at El Paso and Decatur, Ill.

"Resthaven", Waukesha, Wis.

One of the largest office buildings in New York City (name of building withheld out of courtesy to the architects).

A white cement surface on sidewalk was used surrounding same building.

St. Johns M. E. Church, Cleveland, O.

Studebaker Residence, South Bend, Ind.

Taylor Residence, Berkley, Cal.

Armour & Co., Chicago, Ill. Hog killing rooms.

Northwestern University, Chicago, Ill. Swift Engineering Bldg.

Columbia Theatre, St. Louis, Mo. For setting and pointing marble.

Swimming Tank, Central High School, St. Louis, Mo.

Point Building, Cleveland, O.

Masonic Temple, Kansas City, Mo.

Italian Gardens, Cheeseman Park, Denver, Colo.

Wainscoting New City Hospital, St. Louis, Mo.

Emigrants Savings Bank, New York City.

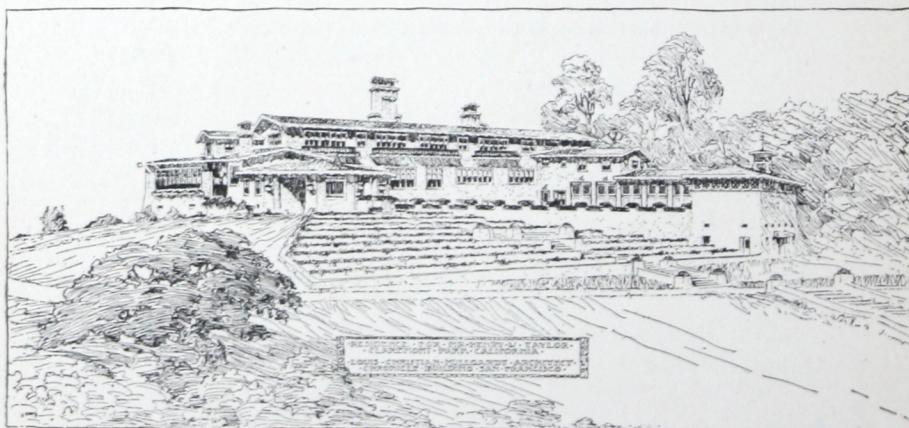
Sea View Hospital, Staten Island, N. Y.

Senate and House Office Buildings, Washington, D. C.

White Cement porch work, Maywood, Ill.

Mausoleum, Delta, Ohio.

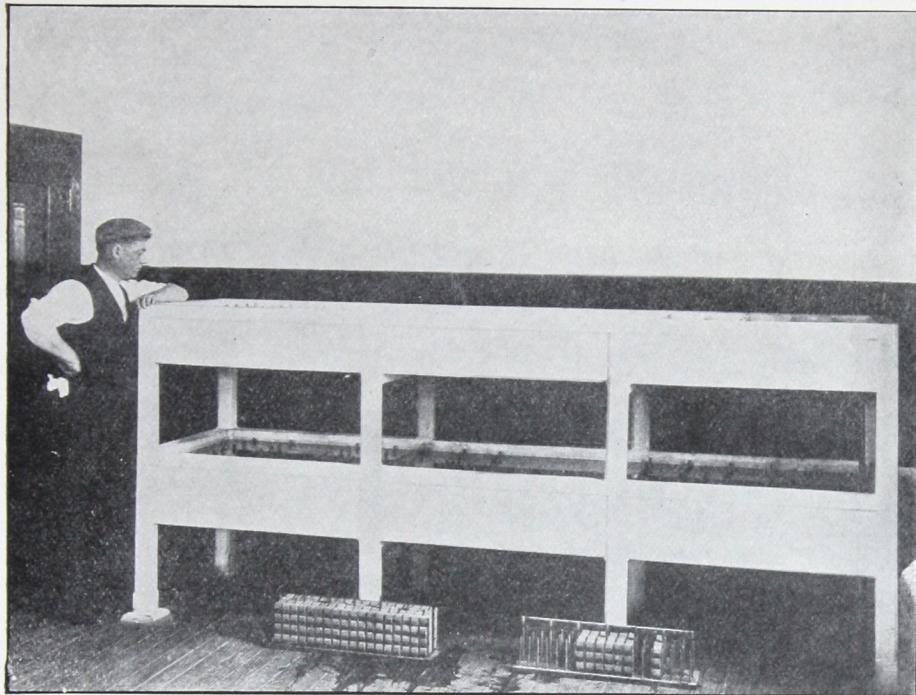
Clean Dairy Co., St. Louis Mo. White cement floor work.



Residence of Henry W. Taylor,
Clairemont Park, (Berkley), Cal.

Medusa White Portland Cement used for entire exterior plaster.

Louis C. Mullgardt, Arch.



Briquette Storage Tank, City of St. Louis.
Cement Testing Laboratories.

Made of Medusa White Portland Cement, white sand and containing Medusa Water-Proof Compound.

Mont. Schuyler, Engr. in Charge.

TESTING LABORATORY.

City of St. Louis, Mo.

Mr. E. S. HEALEY, V. Pres. Glenco L. & C. Co.,
Boyle & Manchester,
St. Louis.

Dear Sir:—In accordance with agreement I make report of 7- and 28-day tests on Medusa White Portland Cement.

Neat Sand-1:3.

7 days	704	258	Each value is average
28 days	849	307	of six briquettes.

Time of set: Initial, 2 hrs. 12 min.; final, 4 hrs. 30 min.

Soundness: Steam-Air-Water, O. K.

Fineness: 98⁶ on 100 sieve; 89³ on 200 sieve.

Specific Gravity, 3.11.

The 1:3 Sand briquettes were made with river sand sifted 20-30 and 10 per cent. should be added to bring values to figure that cement would have shown had Standard Ottawa Sand been used.

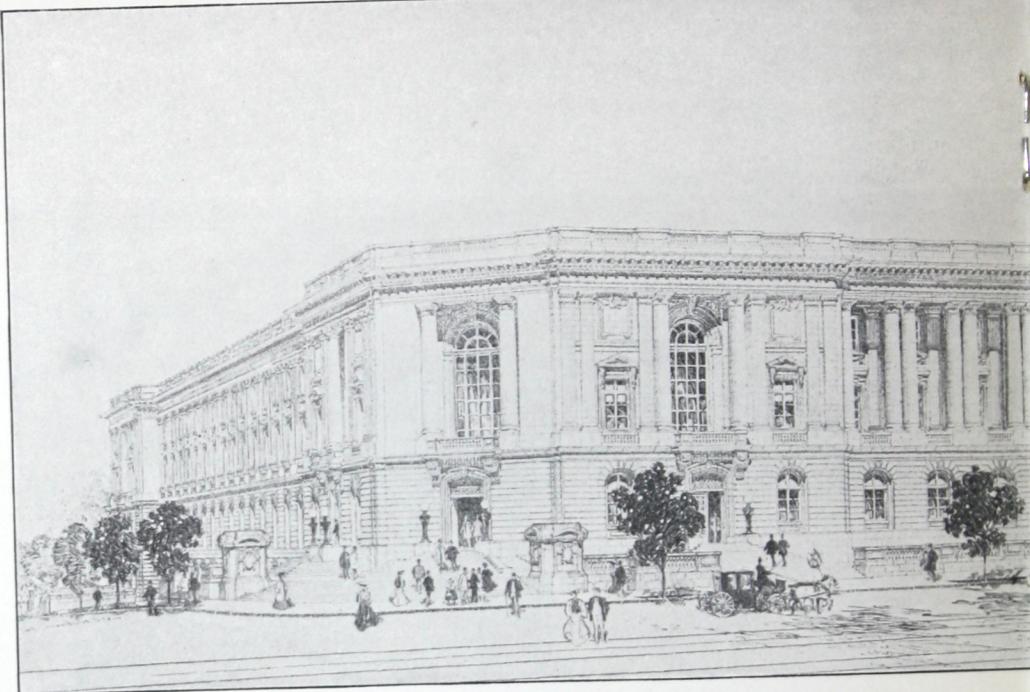
Yours truly,

Mont Schuyler, Engineer in Charge,
City Testing Lab.

U. S. SENATE OFF

Cost \$4,00

Washington



John M. Carrere, Co

Cranford Paving Co., Washington, contractors for floors, using Medusa White Portland.
Vermont Marble Co., Proctor, Vt., contractors for marble, using Me
for marble work, using M

TREASURY DEPARTMENT

Office of Supervising Architect

Mr. P. B. Beery,

Sandusky Portland Cement Co., Sandusky, O.

Dear Sir:—In reply to your letter of the 26th I would sa
of tests made on materials offered for test. I regret that I c

I can say in general, however, that your White Cement
true Portland Cement.

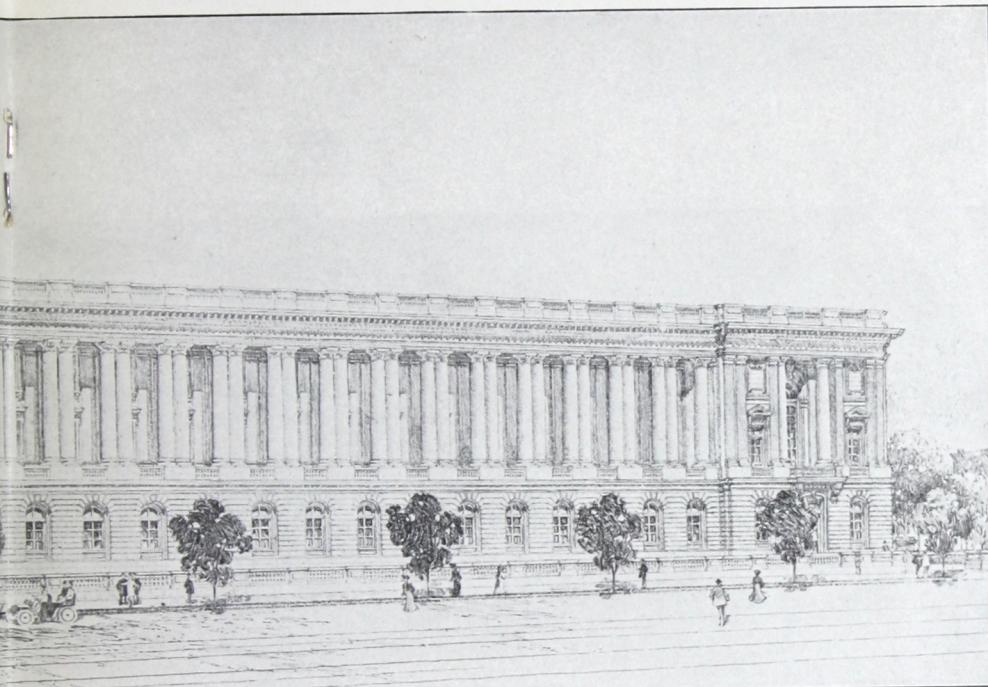
Yours t

Signature omitt

FICE BUILDING

00,000.

n, D. C.



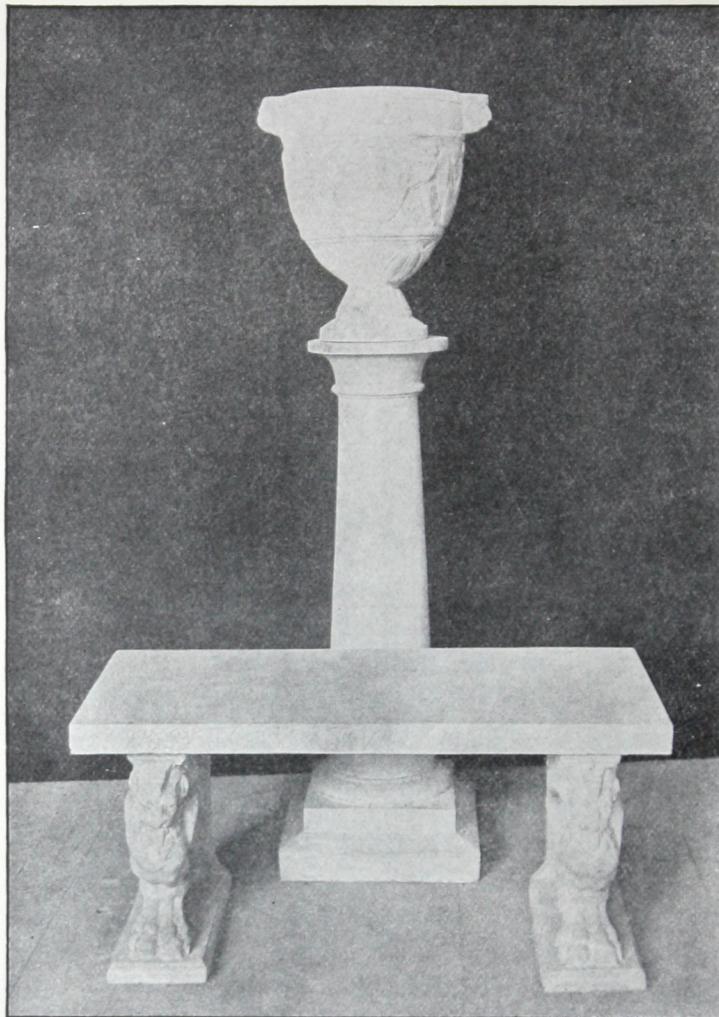
onsulting Architect.

McNulty Bros. New York, contractors for plastering, using Medusa White Portland.
Medusa White Portland. Rutland Florence Marble Co., contractors
Medusa White Portland.

Washington, March 28, 1908

ay that it is against the policy of this office to furnish copy
cannot furnish you the information desired.
was found by chemical analysis and physical tests to be a

truly,
ed out of courtesy to U. S. official.



Lawn Furniture, cast in Medusa White Portland Cement,
by Geo. A. Rowley at his studio,
Chicago, Ill.

SANDUSKY PORTLAND CEMENT CO.,
Sandusky, Ohio.

Cleveland, Ohio, July 17, 1908.

Gentlemen:— * * * It would be difficult for us to explain to you the great aid that the production of White Portland Cement has given us in the advancement and improvement of our business. We are therefore only too pleased to do anything in our power to help advertise and make known to other parties the better uses that this cement will be put to.

Respectfully yours,

(Signed) *The George Rackle & Sons Co.*



M. E. Church, Cleveland, O.

All window frames, sills, coping and trimmings of cast stone made of Medusa White Portland Cement.

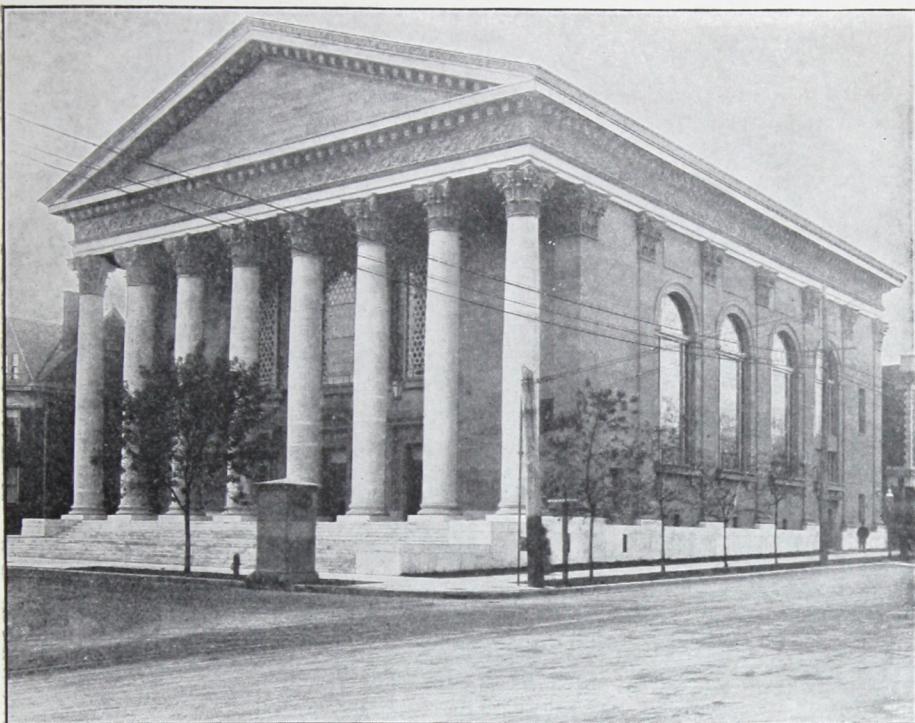
The Geo. Rackle & Sons Co., contractors.



M. E. Church, Cleveland, O.

All window frames, sills, coping and trimmings of cast stone made of Medusa White Portland Cement.

THE GEO. RACKLE & SONS CO., Contractors.



Temple Israel,
St. Louis, Mo.

Built of Bedford Stone, laid and pointed with Medusa White Portland Cement.
BARNETT, HAYES & BARNETT, Archts.

New York, Oct. 8th, 1908.

CLIFFORD L. MILLER & CO.

I have just completed the stucco work on the outside of my home, at 135 Westminster Road, and am entirely satisfied with the result. I used your White Portland Cement with a small gravel and your Water-proof Compound, and have a very beautiful pebble-dash finish of a pure cream white, that is being very much admired; I might add that all during my term as Superintendent of Buildings for the borough of Brooklyn, I hunted for a white Portland that had the qualities of a pure Portland with a white color, but abandoned it and used lime to lighten up cement in my past work. I can assure you I was pleased to find that your cement stood all of the tests in our laboratory that a first-class Portland cement showed, in time to use it on my own home. You have my permission to refer to me at any time.

Yours sincerely,

(Signed) Peter J. Collins,
(Former Superintendent of Buildings. Borough of Brooklyn, N. Y.)



Residence of J. Q. Anderson,
Chamberlain, S. D.

Entire exterior finish of Medusa White Portland Cement.

G. SCHEURENBRAND, Contr.

Test of R. W. Hunt Co., New York City, on Medusa White Portland Cement
For a large Construction Company, November, 1908.

28 Days.

Neat	Three Parts Sand to One Cement
1. 1080	1. 325
2. 1075	2. 340
3. 1090	3. 325

Initial Set; 2 hrs. 50 min.

Final Set; 6 hrs. 45 min.

Screen 100 Mesh..96.5 %

Screen 200 Mesh..82.5 %

Boiling Test O. K.



ORNAMENTAL
CASTINGS
Made of
MEDUSA WHITE
PORTLAND
CEMENT and
CRUSHED
WHITE MARBLE



DETAILS OF
EXTERIOR WORK
for
TRIPP'S
DANCING ACADEMY
St. Louis, Mo.
The Geo. Rackle & Sons Co.,
Contractors



Tripp's Dancing Academy.
St. Louis, Mo.

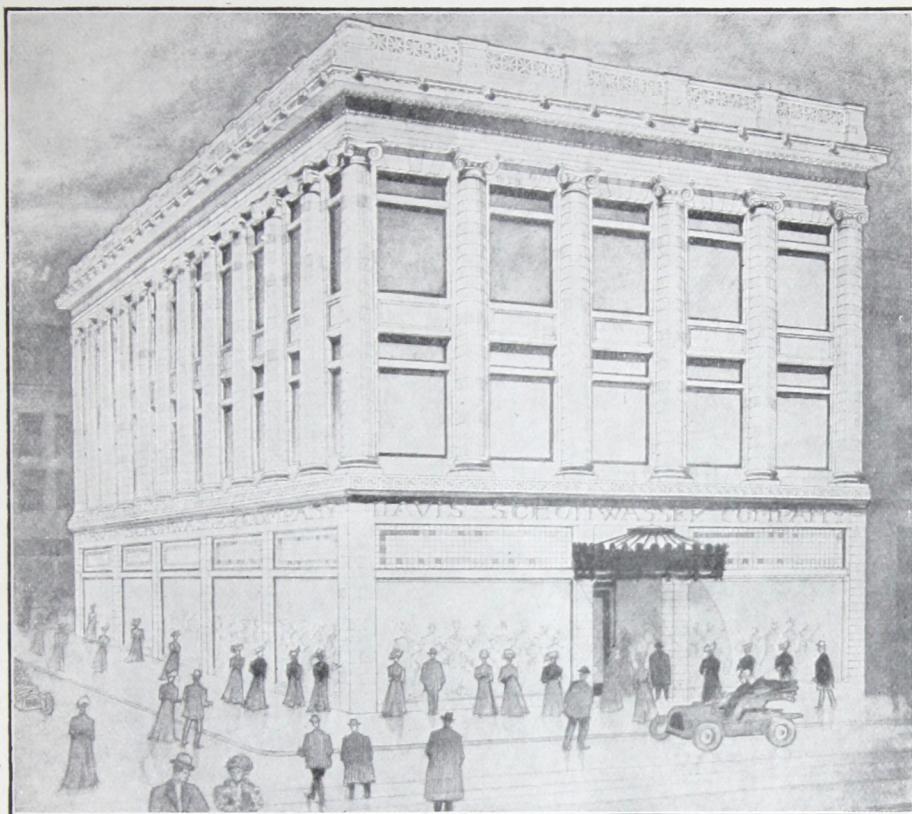
All exterior ornamental work cast in Medusa White Portland Cement. See details on preceding page.

PLAINFIELD CEMENT STONE COMPANY.

Plainfield, N. J., April 21, 1908.
SANDUSKY PORTLAND CEMENT CO.,
Sandusky, Ohio.

Gentlemen:—We are using the Medusa Pure White Cement in our ornamental work, and the results have been quite satisfactory.
Yours truly,

Plainfield Cement Stone Co.,
R. G. Bush, Manager.

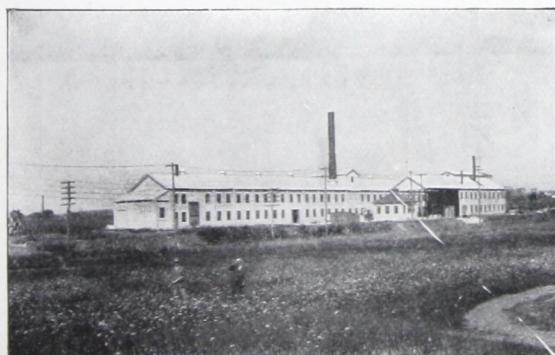


**Davis, Schonwasser Building,
San Francisco.**

MacDONALD & APPLEGARTH,

Architects

Entire exterior finish of Medusa White Portland Cement.



Medusa White Portland Cement Mill, Pennsylvania.

WHITE PORTLAND CEMENT.

Porch Columns and Capitals.



Sandusky Portland Cement Company's Jamestown Exhibit.

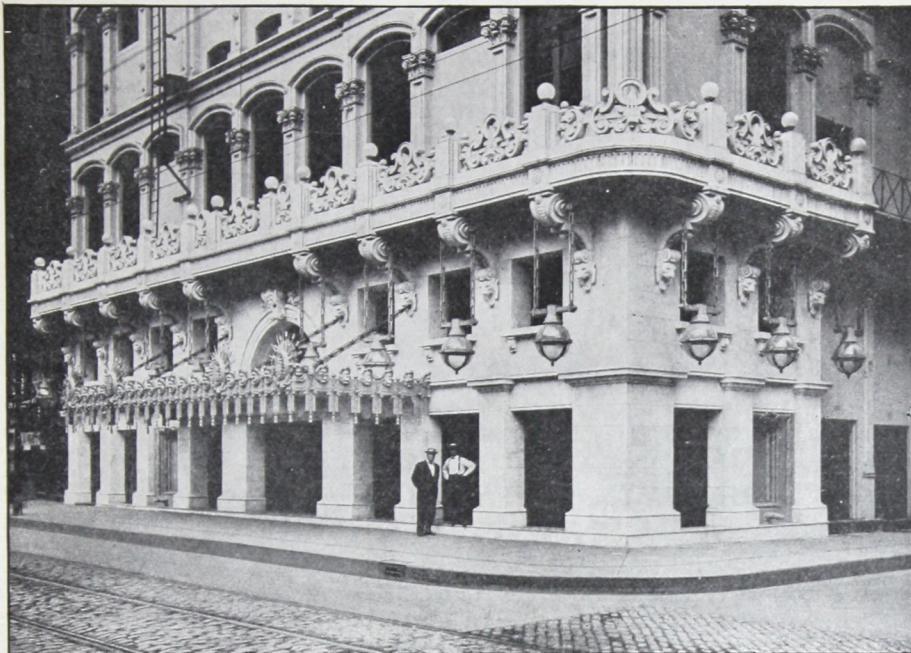
Illustration shows White Portland Cement porch columns and capitals.

Washington, D. C., March 17, 1908.

Test of cement No. 153. Received from National Mortar Co. Reported to Mr. Chesterman, Nat. Mortar Co. Brand, Medusa White Portland. Date received, December 1, 1907. Date tested, December 11, 1907.

No. of sample.	Per cent. of water to make stiff mortar.	Temperature.		Fineness.			Setting.		Time Briquette in				Tensile strength		
				Coarser than			Wire test.		Mould.	Air moist.	Water.	Total.	Neat Cement.	3 parts sand std. quartz.	
		Air.	Water.	50 Mesh.	100 Mesh.	..... Mesh.	Initial Hrs. M.	Hard Hrs. M.							
		18.7	72	72	—	6.1%	—	—.30	4.—	Hard Set	1 day	1 day	1 day	237	
		18.7									6 days	6 days	7 days	429	
		9.3									1 day	6 days	7 days	655	175
											27 days	28 days	28 days		306

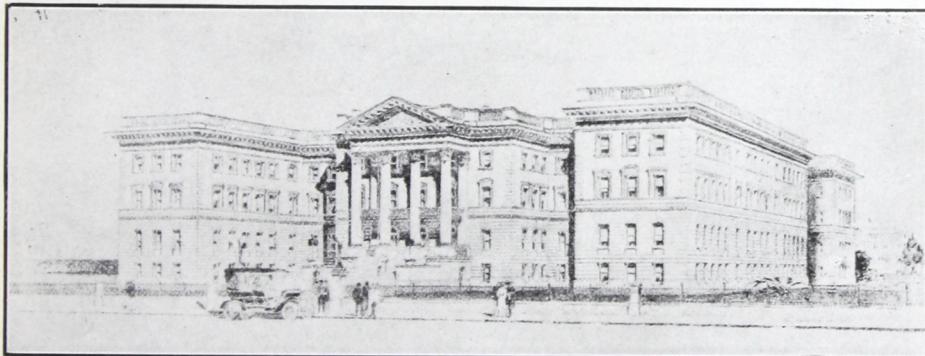
C. S. Reeve,
Asst. Inspector of Asphalts and Cements,
Dist. of Columbia. Washington, D. C.



Columbia Theatre Building,
6th and St. Charles Sts., St. Louis, Mo.

Vermont Marble exterior, laid and pointed with Medusa White Portland Cement.

Barnett, Hayes & Barnett, Architects.



Southern Pacific Hospital,
San Francisco, Cal.

Medusa White Portland Cement to be used for mortar in setting sand lime brick.

D. J. PATTERSON, Architect.

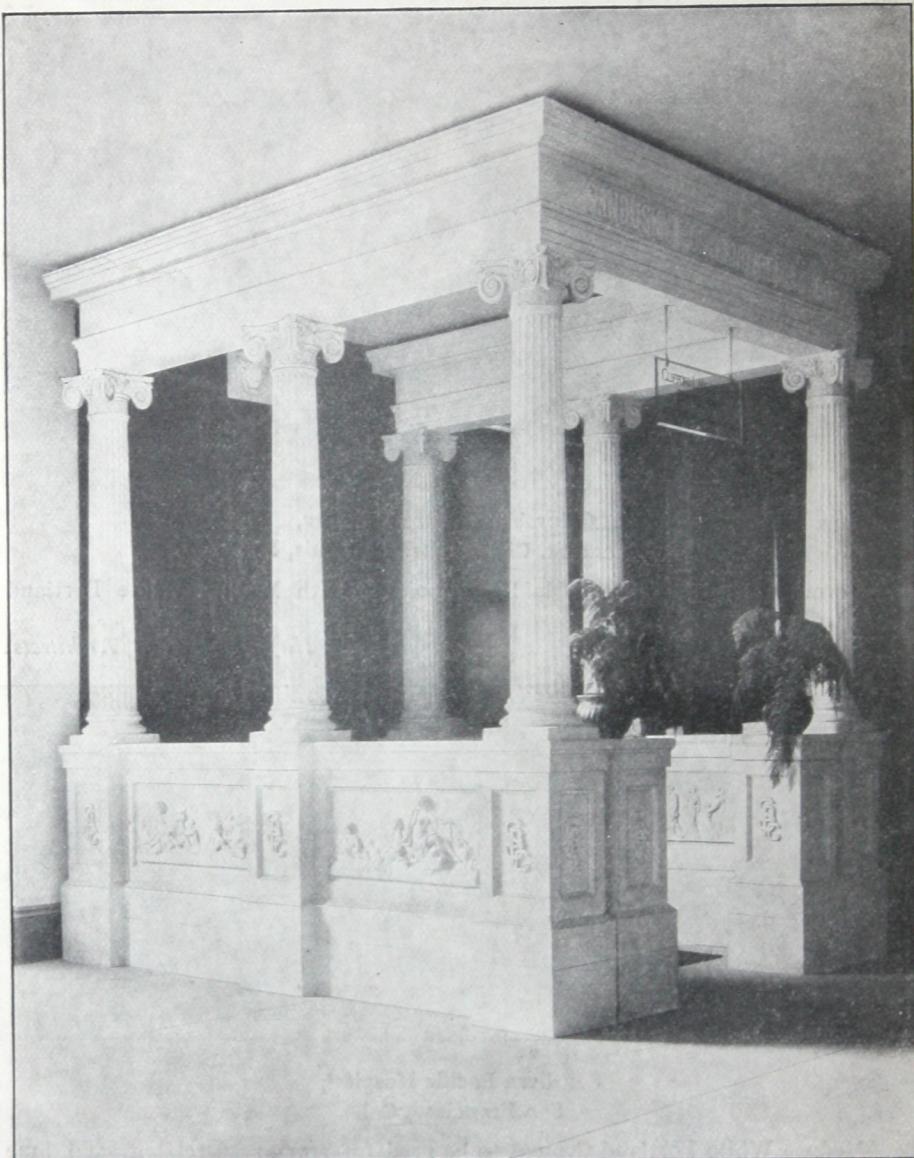
OUR PRODUCT IS GUARANTEED

STAINLESS

NEW YORK PERMANENT EXHIBIT.

Medusa White Portland Cement.

CLEVELAND CONCRETE BLOCK CO., Contractors.



Brunswick Building,

225 5th Ave.

Concrete Association of America.